

## NOTES ON CERTAIN METAL PINS AND A MACE-HEAD IN THE HARAPPĀ CULTURE

By STUART PIGGOTT

*The isolated character of the Indus Valley or 'Harappā' civilization makes it imperative that such stray links as it may offer with the outside world be examined and re-examined constantly as knowledge advances. Only so can we hope to relate the earliest Indian civilization chronologically and culturally with the rest of Asia, and so ultimately to appraise its contribution to the main stream of human progress. In the present paper Professor Piggott, who has a first-hand knowledge of the Indian material, deals afresh with certain of these links.*

THE prehistoric Indian civilization of the Punjab and the Indus Valley, known best from the great cities of Mohenjo-daro and Harappā, and named from the latter site the Harappā Culture, has among other distinctive peculiarities an extraordinary absence of contacts with the outside world. Essentially Indian in the mature phase in which the culture is alone known to us at present, we can trace little evidence of trade-relationships with the contemporary civilizations of Persia or Mesopotamia, and, although Harappā imports were certainly finding their way to the latter region in the second half of the third millennium B.C., there are few objects among the many thousands from the Indian sites that betray a foreign inspiration or origin.\* Any such objects that can be identified have therefore a proportionately great importance in establishing links between India and the West, and above all in throwing light on the chronology of the Harappā Culture, and its position in the time-scale worked out for the Mesopotamian prehistoric civilizations and the subsequent historical dynasties. It is the purpose of this paper to draw attention to five metal objects—four pins or rods with ornamental heads, and a small mace-head—found at Harappā, Mohenjo-daro and Chanhudaro and having significant analogues outside India. Our enquiries into the origins of these types will lead us very far afield, and will suggest several interesting possibilities of trade and folk-migrations across the Old World, in which Europe and the Sind Desert, the Caucasus and the Cyclades, are linked by metal types derived from a common source in the Near East.<sup>1</sup>

### *Spiral-headed pins*

The first type under discussion consists of a copper or bronze pin in which an ornamental head has been contrived either by splitting the wire at the top and twisting it into two flat spirals side-by-side, or in which a single spiral is made by turning over the top of the pin without splitting the metal. Two examples are known from the Harappā Culture, and their rarity emphasizes their intrusive nature. One, from Mohenjo-daro<sup>2</sup> (fig. 1, 2), appears to belong to the second, single-spiral, type, but it is not certain whether there was not another branch at the top of the pin terminating in another spiral. The metal is heavily corroded and I was unable to determine, when examining this pin in 1944, whether or not

<sup>1</sup> I should like to express my gratitude to Dr. P. J. Jacobsthal for his illuminating comments on this paper in its draft form, though I do not wish to implicate him in any conclusions with which he may disagree, and for which I accept sole responsibility.

<sup>2</sup> E. J. H. Mackay, *Further Excavations at Mohenjo-daro* (Delhi, 1938), I, 539; II, pl. C, no. 4.



such an arm had been broken off, or whether the whole pin was bent into its present shape. The second pin (fig. 1, 1) is from Chanhudaro, and is a fine example of the double-spiral type.<sup>1</sup>

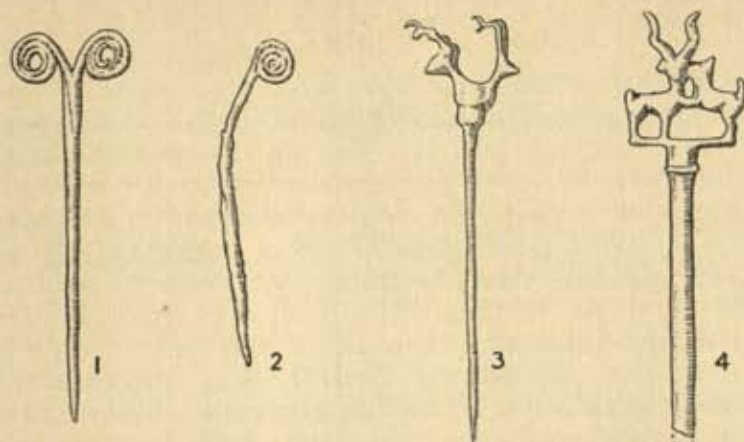


FIG. 1. Bronze or copper pins and rod from: 1. Chanhudaro, 2. Mohenjodaro, 3. Mohenjodaro, 4. Harappā.  $\frac{1}{2}$

The exotic character of the Chanhudaro pin was realized from the time of its first discovery, and an illuminating commentary on the distribution of the type was made by Childe in 1936,<sup>2</sup> which will form the basis of the subsequent discussion in this paper. For the present, however, it is important to ascertain the precise horizon of the two Indian finds in the sequence of Harappā Culture deposits at Mohenjodaro and Chanhudaro respectively.

The stratification at Mohenjodaro as presented by Marshall and Mackay in their reports is by no means easy to follow or interpret.<sup>3</sup> Both the spiral-headed pin and another discussed later in this paper were found by Mackay in the DK area, where the excavations revealed the maximum depth of superimposed strata, but there is no stratified section drawn in the report and objects were in fact assigned to their respective horizons by means of levels beneath an arbitrary datum rather than by reference to the actual layer of soil or debris in which they occurred. From the verbal description of the successive building-levels given in the report, with their depths below datum, it is however possible to reconstruct a rough sectional diagram into which finds can be interpolated (fig. 2) and, while such a reconstruction can only be claimed as an approximation, it does give in convenient visual form a rough outline of the probable sequence encountered by the excavator in the central area of the DK Mound. An important feature in the sequence is the presence of thick layers of river-silt at various levels, indicating a flooding from the Indus, and of these three can be inserted on the diagram from Mackay's data. Such flood-levels must imply large-scale rebuilding after, and an effective sealing of strata before, their deposition.

A further complication which the diagram is designed to elucidate is the nomenclature of the building-phases. These were grouped into three main periods, Early, Intermediate and Late, these being again subdivided into three. The fact that flood-silt cuts across these main periods in each instance was not apparently regarded as an inconsistency by Mackay. But although the main phases are reasonably enough named in order from the bottom upwards, their subdivisions are numbered in reverse order, so that, for instance,

<sup>1</sup> Mackay, *Chanhudaro Excavations* (New Haven, 1943), p. 195, pl. LXVIII.

<sup>2</sup> *Liverpool Annals of Arch.*, XXIII (1936), 113-119.

<sup>3</sup> The inadequacy of the recording at Mohenjodaro, Harappā and Chanhudaro has been commented on by Wheeler, *Ancient India*, no. 3 (1947), p. 144.



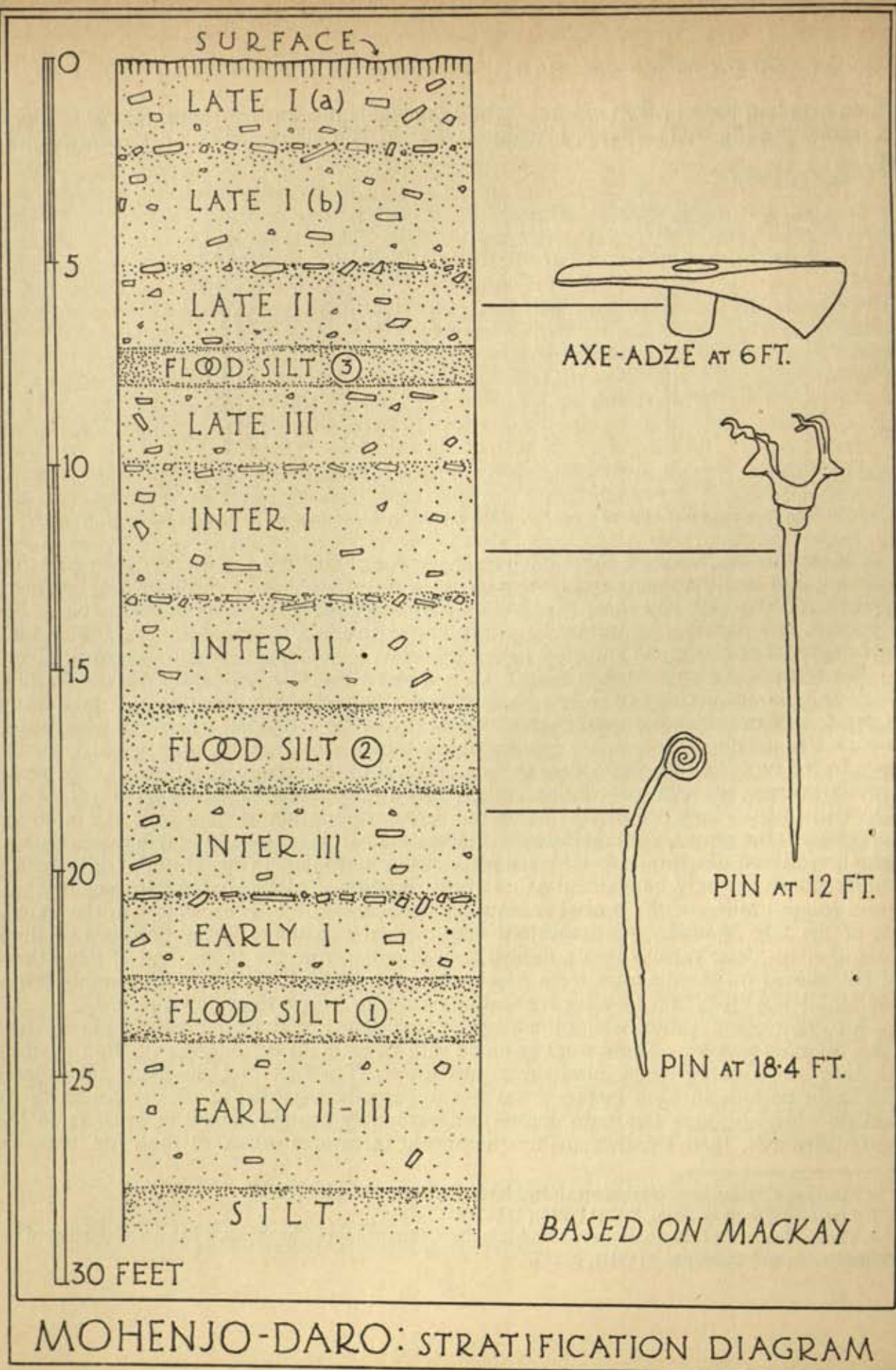


FIG. 2



Intermediate Period Phase III follows on Early Period Phase I. This extraordinary system of reference can be very confusing, and indeed the whole account of the Mohenjo-daro stratigraphy is so complex and sometimes inconsistent that any discussion of its features must be prefaced by an explanation, and a disclaimer to have extracted more than an approximation from the published data.

With these necessary reservations, the position of our spiral-headed pin at a depth of 18.4 feet below datum brings it into the Intermediate III phase, apparently shortly before the second flooding of the site. Virgin soil was not reached in the DK area, owing to the present water-table, but flood-silt was encountered, above which two imperfectly distinguished building-levels lay, themselves covered by the silt of the first recognizable flooding of the city. Above this were two more building-phases, Early I and Intermediate III, before the second layer of flood-silt. Whatever its precise horizon, therefore, the Mohenjo-daro spiral-headed pin belongs to a fairly early stage of the site's history, and certainly cannot be regarded as intrusive from above. Its associated finds comprised the normal range of Harappā Culture types: it was found in an alley-way between two blocks of houses.

The Chanhudaro pin with double-spiral head was found as part of a hoard of metal objects contained in a copper bowl, the hoard being numbered 2365 in the excavation report. The group of objects consisted of a second copper or bronze jar, a flat handled pan, an arrow-head, three caps for small staffs or similar objects, a knife, four spear-heads and two elongated axes or chisels (all Harappā types), and the pin under discussion. At Chanhudaro, as at Mohenjo-daro, the system of recording finds ignored stratification, but by correlation of the datum-level and the contoured plan of the site it is possible to see that it was found very near the surface, not in significant association with Harappā types, and quite possibly is to be assigned to the phase of occupation on the site following the Harappā settlement—that characterized by pottery and seal types of the Jhukar culture. I have elsewhere commented on the unsatisfactory situation presented by this find<sup>1</sup>: if it is to be assigned to the Harappā occupation of Chanhudaro, it must be to its final phase.

This Chanhudaro pin is of a type well-known in Western Asia, and the Mohenjo-daro example is sufficiently closely allied to be considered with it in any discussion. Childe, in his basic study of this type, showed that it had a range from Greece to India, and must have been distributed by routes running east and west through Anatolia to North Persia and beyond, while in Europe derivatives of the double-spiral pin appear in the North Italian and Central European Middle and Late Bronze Age. He was able to show that such pins were being made by at least 2500 B.C. in the Eastern Mediterranean region, and that European derivatives could be up to a millennium later in date. As there are some finds additional to those known in 1936 to supplement our knowledge today, it will be worth while briefly reviewing the evidence afresh.

At least eighteen sites within the area covered by the map (fig. 3)—that is to say from Greece and the Lower Danube on the west to the Indus on the east, and bounded on the north by the Caucasus and the south by the Persian Gulf—have yielded spiral-headed pins. The distribution of these sites emphasizes the pattern already visible on Childe's map of ten years ago, and one sees a marked concentration in the Aegean-Anatolian region with a significant spread to northern Persia and Anau in Turkestan, and finally, after an intervening blank largely represented by unexplored Afghanistan, their appearance on the Indus. Purely regarded as a distribution-pattern, an origin in the more westerly region and a subsequent spread eastward is suggested, and it is noticeable that the classic regions of Sumerian civilization are not included in the known dispersal of the type, and this despite very extensive excavation in those areas. A non-Sumerian origin is therefore *a priori*

<sup>1</sup> In a note on the Jhukar phase pins from the site printed in Wheeler's paper cited above.







likely for these pins, even in the face of the dominating influence of Sumer in Western Asiatic metal types from about 2800 B.C. onwards.

An analysis of the associations of the pins, where known, gives us, with one notable exception, a consistent picture of their chronological status not incompatible with the movements suggested by the map. They occur in the Second City of Troy, dated by Blegen to 2500–2300 B.C.<sup>1</sup> Two silver examples from Syros in the Cycladic Islands<sup>2</sup> and another from Zygouries near Corinth on the Greek mainland are in Early Cycladic and Early Helladic contexts,<sup>3</sup> approximately contemporary with or a little earlier than the Trojan bronze specimens. At least four sites on the Lower Danube—Vidra, Ruse, Sultan and Gaborevo—have produced bronze pins of the double-spiral headed type, and at Vidra the pins from IIc and III in the site's stratification should equate with the Early Macedonian Bronze Age, with c. 2500 as a *terminus post quem*.<sup>4</sup> In Anatolia, as well as the pins from Troy II, such pins occur at Ahlatlibel,<sup>5</sup> and at Kusura in Period C,<sup>6</sup> dated by Winifred Lamb as *post* 2000, and there are related, though specialized, forms at Alishar,<sup>7</sup> mainly of the period of the Hittite Empire (twentieth to twelfth century B.C.) though perhaps also in Alishar II preceding this period. Among the remarkable finds of gold and silver from the so-called 'Royal Tombs' at Alaca Hüyük there is a double-spiral headed pin made in both metals from Grave L<sup>8</sup>—here a date after 2000 seems likely to me.

The consensus of the Anatolian-Aegean evidence is therefore in favour of an origin of the type in that region perhaps as early as 2600, but with a survival up to 2000 and beyond. One may note in this connection certain very specialized gold ornaments embellished each with a pair of double-spirals in wire, which are again known from the Alaca Hüyük 'Royal Tombs',<sup>9</sup> but also from Shaft Grave III at Mycenae (Late Helladic, about 1600)<sup>10</sup> and from a grave at Mari in Syria of the fourteenth century B.C.<sup>11</sup> A small example of the same type in silver has recently been published by Mallowan from Tell Brak in northern Syria, where it can be dated with some accuracy to about 2100 B.C. (*Iraq*, IX, Pt. 1 (1947), 74). Another example was found by De Morgan in the Talich (Azerbaijan), and there is one in the Cairo Museum presumably of Egyptian origin. (*Miss. Scientif. en Perse*, IV, fig. 85, 12; T. Burton Brown, *Studies in Third Millennium History* (1946), p. 97.) Though the origins of the double-spiral headed pins go back to the first half of the third millennium B.C., their main popularity in Anatolia seems rather to have been in the centuries around and after 2000. Among the rich bronze-work of the cemeteries

<sup>1</sup> Dörpfeld, *Troja und Ilion*, I, fig. 294. Schmidt, *Schliemanns Sammlung*, p. 254, no. 6401; Bittel, *Prähist. Forschungen in Kleinasien*, pl. 19, 24; Schliemann, *Ilion* (English edn.), p. 505, fig. 932. Cf. Bittel in *Marburger Studien* (1938), p. 13, for Egyptian parallels. Blegen's chronology is in *Amer. Journ. Arch.*, XLI (1937), 563.

<sup>2</sup> Tsountas in *Ephemeris Archaeologike*, 1899, pl. 10, nos. 15, 16.

<sup>3</sup> Blegen, *Zygouries*, pl. XX, no. 9. Jacobsthal draws my attention to a double-spiral headed pin from Cyprus (omitted from my map—see Ohnefalsch-Richter, *Kypros*, pl. 146, I b.)

<sup>4</sup> Childe, *Dawn of European Civilization* (1939 edn.), p. 124, with refs. for all four sites; Ruse pins in *Real. der Vorgeschichte*, II, Taf. 93.

<sup>5</sup> *Türk Tarih Ark. v. Etnog. Dergisi*, II (1934), 93, fig. 355; Childe in *Liverpool Annals*, loc. cit.

<sup>6</sup> *Archaeologia*, LXXXVI (1937), 41.

<sup>7</sup> Schmidt, *Alishar Hüyük, 1928-29* (1932), p. 161; van der Osten, *Alishar Hüyük 1930-32* (1937), II, fig. 283.

<sup>8</sup> *Illustrated London News*, 21 July 1945, p. 78. Miss Lamb dates the Alaca tombs as c. 2500-2000 (*Anatolian Studies pres. to W. Hepburn Butler* (1939), 148).

<sup>9</sup> Arik, *Fouilles d'Alaca Hoyuk 1935* (1937), pl. CCXLIX. Kosay, *Ausgrabungen von Alaca Hoyuk* (1944), pl. CIX, 12 and 26.

<sup>10</sup> Karo, *Die Schachtgräber von Mykenai* (1933), p. 52, pl. XXI. Evans, *Shaft Graves and Bee-hive Tombs of Mycenae* (1929), p. 47.

<sup>11</sup> *Syria* (1937), p. 83.



north of the Caucasus, such as that of Koban and Korca, single- and double-spiral headed pins occur,<sup>1</sup> in contexts vaguely dated between the thirteenth and ninth centuries B.C. by Tallgren. The European derivatives of the double-spiral type date from the fourteenth century and later: at Taranto in a stratified site double- and single-spiral headed pins were found in associations that could be dated as not earlier than 1300,<sup>2</sup> and the other European examples persist even later, the most remote being one from Dorset in southern England, found with a burial of the Late Bronze Age of the seventh or eighth century B.C.<sup>3</sup> There was indeed a splendid renaissance of double-spirals in Early Iron Age Europe in the seventh century B.C.

When one turns to the North Persian evidence however, we encounter a paradox. At Tepe Sialk near Kashan double-spiral headed pins were found in Period IV of the site's occupation, and the stratum representing this period contains polychrome pottery in the Jemdet Nasr style and 'proto-Elamite' inscribed tablets of equivalent date, thus placing Sialk IV well into the fourth millennium B.C.<sup>4</sup> The double-spiral motif on painted pottery appears, in fact, in Sialk III, and in the contemporary Hissar Ib, but on pottery as in metal it also occurs in later contexts, as for instance in the Jhukar levels at Chanhudaro (Mackay, *Chanhudaro Excav.*, pl. XLV, 19). The pins at Sialk must therefore antedate the Cycladic or Trojan examples by at least a thousand years, and though at present this evidence for such a remote date stands alone, it obviously cannot be disregarded. We can only say that the type, unknown in the whole series of metal pins from Sumer, yet does make an isolated appearance in one North Persian site at an extremely early date. The relationship of the Sialk pins to those further west must for the present remain unsolved.

At the site of Hissar, only two hundred miles north-east of Sialk, double-spiral headed pins appear in the Hissar II phase, and persist into Hissar III.<sup>5</sup> It might be possible to make a chronological equation between Sialk IV and Hissar II if McCown's claim for a high dating for Hissar III were to be accepted, and this phase were to begin at a time contemporary with the beginning of Early Dynastic Sumer, but I have shown elsewhere some of the difficulties inherent in such a view. I cannot see that a date earlier than c. 2500 for the beginning of Hissar III is really defensible, and would prefer to bring it much near 2000—were such a date accepted, the pins would be in a context in every way compatible with the Anatolian evidence. The third period at Anau in Russian Turkestan,<sup>6</sup> which likewise yielded double-spiral headed pins, must run parallel to Hissar III, whatever the date of the Persian site, and again I feel that Anau III should, in view of its Indian points of contact, be dated late rather than early in the third millennium.

We have carried our survey of spiral-headed pins eastwards to the frontiers of India, where the two examples that prompted our original enquiry were found, one apparently early in the sequence of Harappā culture deposits at Mohenjo-daro, the other at the end of the Harappā phase or in that of Jhukar, at Chanhudaro. We have seen that were we to accept the Sialk evidence unreservedly, there would be no difficulty in a type which had

<sup>1</sup> Chantre, *Récherches Anthrop. dans le Caucase* (1886), II, pl. XX. Double-spiral headed pin from Korca, Hancar in *Eurasia Septent. Antiqua*, VII (1932), 113–182, fig. 31.

<sup>2</sup> Drachma (Nilsson *Festschrift*, 1939), pp. 458–490; cf. *Antiquity*, XVI (1942), 189.

<sup>3</sup> A nineteenth-century find from 'a barrow in Dorset' with a Late Bronze Age spearhead, acquired by the British Museum in 1944. Unpublished.

<sup>4</sup> Ghirshman, *Fouilles de Sialk*, I, p. 64; pl. XCV, a, e.

<sup>5</sup> Schmidt, *Excavations at Tepe Hissar*, pl. XXIX, H. 4356 from Hissar II; pl. XLVIII, H. 3496 from Hissar IIIA. Double-spiral headed rods ('wands') are common in IIIC (p. 194). The pin probably from Rayy shown on the map is in the Louvre and is referred to by Childe, loc. cit.

<sup>6</sup> Pumpelly, *Explorations in Turkestan*, I, 152.



originated in Persia in the fourth millennium appearing in the Indus Valley in the third, but if we look for an Anatolian-Aegean origin about 2600, it is hardly likely that the Mohenjo-daro pin should have arrived in India until several centuries after this date. In the developed form in which we know it, the Harappā Culture did not make effective contacts with Sumer before about 2300 B.C., and though the fragment of a carved steatite bowl from the lowest levels of Mohenjo-daro could (on Sumerian evidence) be dated as early as 2800, yet the presence of the spiral-headed pin at a depth of eighteen feet (whatever the precise stratigraphy) would go to reinforce the lower date for the known occupation of the site, and give us reason to suppose that a date of about 2000 would not be out of place for a centre-point in the history of the long occupation of Mohenjo-daro. At Chanhudaro, we may use the presence of the pin in the debated hoard either to indicate that the end of the Harappā phase on the site was not much earlier than 2000, or that the Jhukar settlement was established in the ruined town sometime after this date—both perfectly reasonable arguments and fully compatible with other evidence. But the Chanhudaro find does suggest that a late rather than an early date for the presence of spiral-headed pins in India is to be preferred.

### *Animal-headed pins and rods*

We may now turn to another distinctive type of pin or rod, known from two finds, at Harappā and Mohenjo-daro respectively. At the former site, at one foot below the surface in Area J, Trench III, was found a bronze rod,<sup>1</sup> broken but not tapering and so therefore probably not a pin, with its head formed by a little group cast in the round, representing a horned deer or antelope attacked by a dog, which is biting the beast's ear. The position and conditions of finding of this object are such that it cannot usefully be related to any phase of the Harappā occupation, but may at least belong to its final period or even to one after the main occupation of Harappā was over. The Mohenjo-daro find<sup>2</sup> was made in the same DK area that produced the spiral-headed pin already discussed, and was 12 feet below the arbitrary datum to which finds were referred. If my tentative equation of datum-readings and flood-levels in the DK area is approximately correct, the object was found in the Intermediate I level, between the second and third flood-silts. It is a bronze pin, the decorative top of which is formed by a pair of animal heads, cast in the round, apparently of the Black Buck (*Antelope cervicapra*).

These two objects have no parallels in the Harappā culture at large, but seem to me to belong to a large group of pins and rods adorned with animals and sometimes having little scenes such as the beast attacked by dogs, or as we shall see, such ambitious conceptions as a ploughing or dancing group. We may conveniently group these latter types as 'anecdotal' pins or rods. The distribution of such decorative objects is wide, but nevertheless within certain limits in Western Asia and Eastern Europe, and, as the map (fig. 3) shows, this distribution has considerable agreement with that of the spiral-headed pins we have already discussed. I do not know of any previous treatment of these animal and anecdotal pins as a whole, though certain points of similarities and contacts have already been indicated. Representative examples are shown in fig. 4.

<sup>1</sup> Vats, *Harappā Excavations*, II (Delhi, 1940), pl. CXXV, 34, 36; I, 390.

<sup>2</sup> Mackay, *Further Excavations*, pl. C, 3; I, 539. Attention was first drawn to the importance of the Harappā and Mohenjo-daro bronzes, here discussed, by M. E. & D. H. Gordon in 1940 (*Journ. Royal Asiatic Soc. Bengal, Letters*, VI (1940), 65). The Gordons perceived the western contacts which the animal-headed ornaments implied.



Unlike the spiral-headed pins, we can with some confidence go to fourth-millennium Sumer for the earliest examples of such types of ornament. Animal-headed pins are known

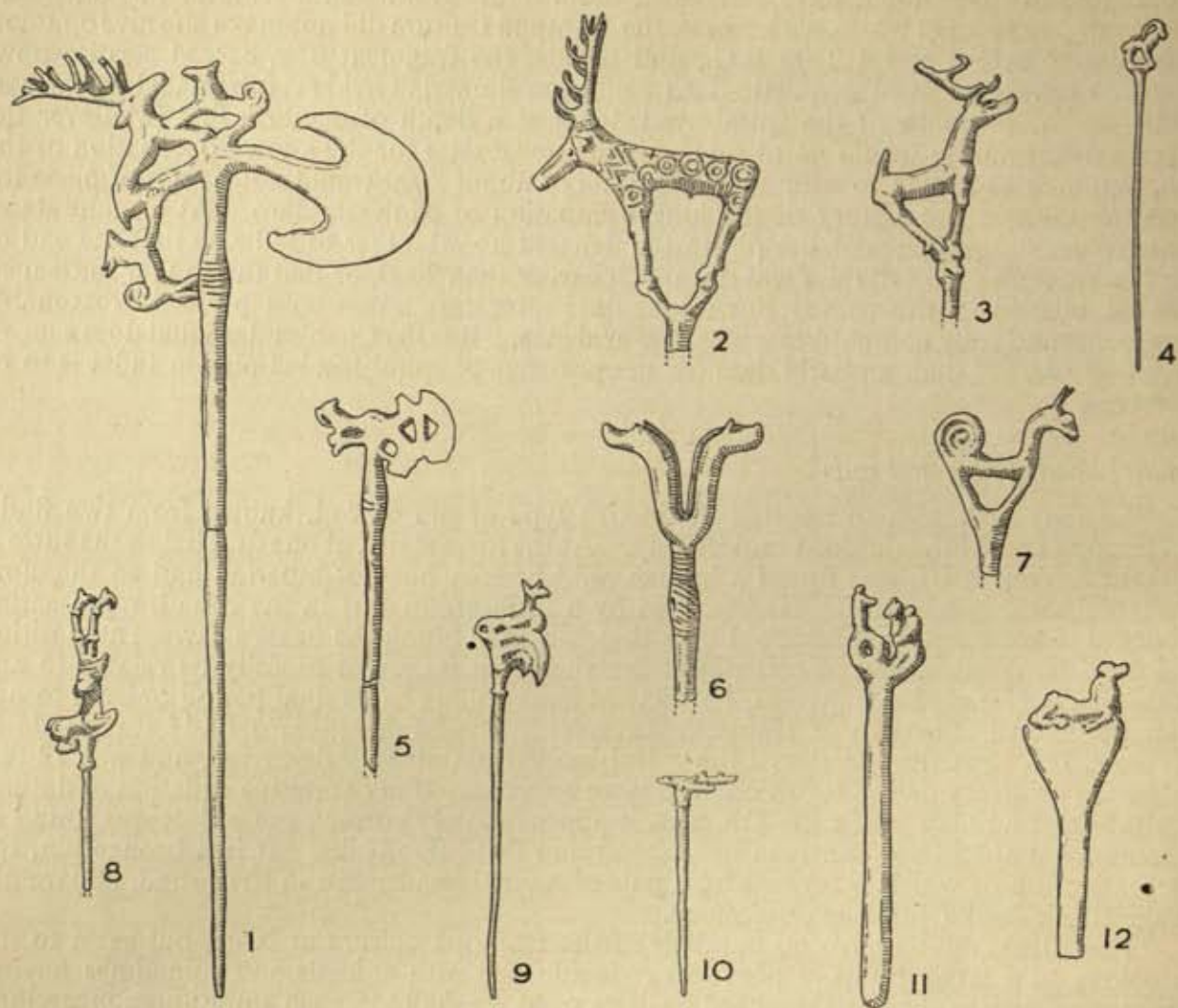


FIG. 4. Pins and rods (all bronze except 2, electrum, gold and bronze; 4, gold) from: 1. Kobān, Caucasus; 2. Alaca Hüyük, Turkey; 3. Caucasus; 4. Shaft Grave IV, Mycenae; 5. Trialeti, Caucasus; 6. Kobān, Caucasus; 7. Arslan Tepe, Malatya, Turkey; 8. Luristān, Persia; 9. Luristān; 10. Gök Tepe, Persia; 11. Hissar, Damghan, Persia; 12. Khurab, Persian Makrān. Scales: nos. 1, 4-7, 11—one-half; nos. 2, 3, 8-10, 12—one-quarter

from Uruk contexts at Susa,<sup>1</sup> and probably of this date too is the famous 'Dancers Pin' from Lagash, with a pair of human figures dancing on the top.<sup>2</sup> At Kish, bull-headed pins were found in the 'A' cemetery, of Early Dynastic date,<sup>3</sup> and at Chagar Bazar one pin with a pair of doves on the top and another with a goat's head were found in a

<sup>1</sup> *Mém. Délég. en Perse*, XXV, 197, fig. 34; VII, 82, pl. XIX, 3.

<sup>2</sup> Genouillac, *Fouilles de Telloh*, I, (1934), pl. 10, p. 46.

<sup>3</sup> Mackay, *Report on Excav. of 'A' Cemetery, Kish* (1925), p. 46.



similarly dated context,<sup>1</sup> so we can say that both the animal-headed and the anecdotal type of pin were known by about 2800 B.C. in Sumer, Elam and on the Khabur River, though apparently nowhere a very common or popular type. Whether in fact these occasional examples can be used as evidence for the time and point of origin of the later group with which we shall be concerned is another matter.

A mid third millennium date can be given to three pins from the Aegean in Early Cycladic contexts—two from Syros<sup>2</sup> have respectively a human figure and a bird by way of heads, and the third, from Amorgos, has a figure of a ram.<sup>3</sup> In Mainland Greece, there is a very interesting gold pin with a ram at the top from Shaft Grave IV at Mycenae, about 1600 B.C.,<sup>4</sup> to which we will return later. In Anatolia, there is a bird-headed pin of Hittite Empire date from Alishar.<sup>5</sup>

A pin from Malatya, of uncertain context but probably Hittite, has a stylized horned animal with its four feet drawn together on to the small space at the pin's head, and a fantastic spiral tail.<sup>6</sup> The characteristics of this pin lead us to the Caucasus, where in the cemeteries of Koban and adjacent sites a very characteristic and persistent animal style of ornament is associated with a large series of pins, which often develop into fantastic forms capped either with simple animals, often with the feet drawn together on to the pin-head, or with anecdotal groups which include the actual scene of a deer attacked by dogs. The large pins which bear this spirited representation have the added features of a symbolic miniature axe-blade set at right angles to the shaft of the pin,<sup>7</sup> and this curious type, combining axe and animal representations, occurs again in one of the barrows at Trialeti on the other side of the main Caucasus range.<sup>8</sup> In the Koban series again we see pins crowned with a pair of double animal-heads in the manner of the Mohenjo-daro pin.<sup>9</sup> The date of the great series of Caucasian cemeteries is usually rather vaguely placed within the thirteenth to ninth centuries B.C., but perhaps slightly more precision can be gained by the Trialeti evidence, for the animal-and-axe pin there comes from a gravel layer rather than the 'Chieftains' Graves', which as Schaeffer has shown must date c. 1550–1400.<sup>10</sup>

The stylistic affinities between the Caucasian series of animal-ornamented metal-work and that from the plundered graves of the Luristān district of Iran has been commented on by many writers, and Hancar has made a detailed study of this point.<sup>11</sup> The date of the Luristān bronzes can be partly fixed by inscribed objects which can be dated in terms of the historical sequence of ancient Sumer and Elam, and Przeworski, while giving a general date between 1200 and 600 B.C. for the majority of the finds, feels that some may go back to 1400 or even earlier.<sup>12</sup> While the Luristān metal-smiths raised the art-style of fantastic

<sup>1</sup> Mallowan in *Iraq*, III (1936), 27; *ibid.*, IX (1947), 81.

<sup>2</sup> Tsountas, *loc. cit.*, pl. 10, 10, 13.

<sup>3</sup> Tsountas, *Ephemeris Archaeologica*, 1898, pl. 8, 66.

<sup>4</sup> Karo, *Die Schachtgräber*, pl. XVIII, 245; Evans, *Shaft Graves*, fig. 34b. Present paper fig. 4, 4.

<sup>5</sup> van der Osten, *Alishar Hüyük 1930–32*, II, fig. 283.

<sup>6</sup> Przeworski, *Die Metallindustrie Anatoliens* (1939), pl. XIV, 3. Present paper fig. 4, 7.

<sup>7</sup> At least three such pins are known—at St. Germain (Chantre, *op. cit.*, II, pl. XX—present paper fig. 4, 1). Vienna (Hancar in *Eurasia Septentrionalis Antiqua*, VII (1932), 113, fig. 17c) and Leningrad (Hancar, *loc. cit.*). They fall into Hancar's third group of his classification of the prehistoric Caucasian pins.

<sup>8</sup> Kuftin, *Archaeological Excavations in Trialeti* (Russian with English summary, Tiflis, 1941), fig. 87.

<sup>9</sup> Chantre, *loc. cit.* Present paper fig. 4, 6.

<sup>10</sup> Schaeffer in *Antiquity*, XVII (1943), 183. Jacobsthal expresses doubts as to Tallgren's upper limits of date for the Koban cemeteries.

<sup>11</sup> Hancar, *Eur. Sept. Ant.*, IX (1934), 47; Przeworski, *Survey of Persian Art*, I, Chap. XI; Fossing, *Fra National-museets Arbejdsmark*, 1933, p. 20, fig. 8 shows a Luristān pin in a very Caucasian style. Present paper fig. 4, 9 is from Hancar, *loc. cit.*; fig. 4, 8 from Przeworski; fig. 4, 3 (Caucasus) from Evans, *Shaft Graves*, fig. 34, f.

<sup>12</sup> *Archaeologia*, LXXXVIII (1940), 229–269. Full bibliography.



animal ornament to a high degree of sophistication, the essentials are those of the province of barbaric metal-work which was perceived many years ago by Sir Arthur Evans to form a unit stretching from the Caucasus to the Trans-Caspian region. And within this province we should include the figures of stags from the 'Royal Tombs' of Alaca in Anatolia, which, although larger than the majority under discussion, and probably capping poles as standards, are nevertheless clearly related to the Caucasian series.<sup>1</sup> As we have seen, the Alaca graves appear to date from the centuries around or perhaps after 2000 B.C.

The extension of the Caucasian and related styles of decorative metal-work eastwards to the Caspian is attested by the finds from the third settlement at Tepe Hissar near Damghan. Here a curious series of 'wands' or rods crowned with animal or anecdotal devices, as well as double-spirals, were found, the former again comparable to the main series under discussion.<sup>2</sup> A ploughing scene has a good parallel from the Koban cemeteries, and a Hissar III 'wand' crowned with a stylized bird also seems to have an axe-blade comparable to the Caucasian examples already mentioned.<sup>3</sup> 'Wands' in this Hissar III manner are also known from the site of Shah Tepe, to the north,<sup>4</sup> but here the animal ornament is absent.

Apart from an undated pin from Gök Tepe,<sup>5</sup> east of Lake Urmia, and another from Khalil Dalil, Kurdistan,<sup>6</sup> the only remaining object related to this animal ornament group I have been able to trace comes from Khurab, just over the border in Persian Makrān.<sup>7</sup> Here, Stein found a cemetery the pottery-types of which relate it to that of Shāhi-Tump not far away to the east, and from a grave came a copper or bronze rod with a flat expanded end on which a representation of a seated camel is placed. Now this object has great intrinsic importance as being one of the excessively rare representations of a camel in ancient oriental art, but apart from this it seems to fall into the general group of animal-headed rods under discussion, the spatulate form of the upper end (without an animal) being paralleled on 'wands' at Shah Tepe.<sup>8</sup> The date of the Shāhi-tump cemetery, and therefore by implication that of Khurab, can hardly be earlier than 2000, and broadly contemporary with Hissar III, Anau III and the main series of graves at Shah Tepe. The Khurab rod therefore would be in a very satisfactory context, chronologically and culturally, in relation to comparable sites in Iran and Turkestan.

<sup>1</sup> Arik, op. cit., pls. CCII-CCV; (Tomb BM); CCLXXI (Tomb TM); Kosay, op. cit., pl. LXXXIV (Tomb MA); XCVI (Tomb MC1); *Illustrated London News*, 21 July, 1945, p. 78. These figures, and other bronzes from the same series of graves with horned animals' heads, have a strong stylistic affinity with the Caucasian figures under discussion. For the circle-ornament on the stag 'standard', present paper fig. 4, 2, cf. objects (including an animal figurine) from Hissar III (Schmidt, op. cit., 188, 217). The Maikop animal figures should not be forgotten in this context.

<sup>2</sup> Schmidt, op. cit., p. 194. 'Family group' rod, present paper fig. 4, 11.

<sup>3</sup> Ibid., H. 4279. Note also the double-animal 'protome', pl. XLVI, H. 5141, and compare with the Koban pin, present paper fig. 4, 6, and an object from the great Stepan-Zminda (Kasbek) hoard (Bayern, *Gräber u. Schatzfunde in Kaukasien*, pl. III, no. 5 (Supplement to *Zeitschrift für Ethnol.*, 1885)). Heine-Geldern has already drawn attention to this and other points of similarity between Hissar III and the Caucasian bronzes (*Journ. Indian Soc. Orient. Art*, IV (1936); *Bulletin Iranian Art and Arch.*, V (1937), 7-16).

<sup>4</sup> Arne, *Excavations at Shah Tepe, Iran* (1945), p. 301.

<sup>5</sup> Herzfeld, *Iran in the Ancient East*, fig. 275. Present paper fig. 4, 10. For Gök Tepe, cf. *Zeitschrift für Ethnologie*, XXX, 522.

<sup>6</sup> *Bull. Soc. Préhist. Française*, XXIX (1932), 431. I have not been able to identify this site for inclusion on my map, fig. 3. It is a pin with a ram's head.

<sup>7</sup> Stein, *Arch. Reconnaissances* (1937), pl. XVIII.

<sup>8</sup> Arne, op. cit., p. 298, nos. 637, 646a, b. c.



Our survey of comparative material in Western Asia has shown us that the Harappā and Mohenjo-daro pins with animal-ornamented heads belong to a well-defined group which is represented by finds as far apart as the Aegean and the Caspian, but with its centre of gravity in the Caucasus and North Persia. A few scattered examples show that the idea of ornamenting pins with decorative heads based on animal or human forms was known to the ancient civilizations of Mesopotamia and Elam in Early Dynastic or even earlier times, about the turn of the fourth and third millennia B.C., but these never seem to have attained the popularity or variety of the northerly group. They may have provided an ultimate prototype for the Early Cycladic and Early Helladic examples of the middle of the third millennium in the Aegean, but there is a strong feeling of stylistic dissimilarity between these rather sober and sophisticated ornaments and the tense, barbaric exuberance of the best Caucasian and Luristān bronzes. These in fact belong to the peoples outside the city civilizations of the Mesopotamian plain, to the folk of the steppes and of the mountains, the axis of whose trade and migrations ran east and west through Anatolia, and skirted the Elburz Mountains and the Caspian Sea to reach the plains of Turkestan and the far boundaries of the Chinese world.

The importance of this great province of early metal-work in which animal-ornament played such a part was recognized by Evans in typically prescient manner when he was considering the strange barbaric and non-Minoan elements in the Mycenae shaft-graves—the gold animal-headed pin and those imitating fallow-deer antlers from Shaft Grave IV, the silver rhyton in the form of a red deer from the same grave, and the double-spiral gold ornaments from Grave III. He traces the influence of the Caucasian animal-style 'as far as Siberia and the Finno-Ugrian North and Eastwards across the Tatar steppes of Central Asia to beyond the borders of China', and points to its influence on the European Hallstatt Iron Age cultures<sup>1</sup>; Jacobsthal has recently shown its great importance in the La Tène art of Europe in the fifth and fourth centuries B.C.<sup>2</sup> But these are the lower limits of a style which was already ancient, though preserving its identity and its vigorous originality, and we must turn to the evidence for its beginnings.

I think it is likely, as I have said above, that we need not consider the Sumerian examples of Uruk or later date as anything more than part of the ingenious experimentalism in metal-work that characterizes that region about Early Dynastic times. They founded no style in the land of their origin, and the Aegean pins alone seem claimants for a possible descent from such types. But the animal-style on pins, rods and standards as seen in the Koban cemeteries, the Alaca tombs or those of Luristān, and again in Hissar III, is something homogeneous, with a certain unity underlying all its diverse manifestations. We are dealing with a group of cultures closely allied to, or sometimes identical with, those making the spiral-headed pins discussed above, and it is interesting to notice how the tails of animals at Koban, or on the Malatya pin, are sometimes turned into decorative spirals themselves. The spiral-headed pins, as we have seen, may at Sialk go back to the fourth millennium, but elsewhere the evidence is consistent for a central date of about 2000 B.C., with a persistence certainly until 1500 or so.

With such a date the evidence for the chronological horizon of the animal-headed pins and rods is in agreement, with perhaps a bias to the later figure. About 2600 at Amorgos and a date soon after 2000 at Alaca and Hissar III seem likely, and the persistence of the style

<sup>1</sup> Evans, *Shaft Graves*, p. 44. One may note an extraordinary pin of Caucasian animal-headed type in a Late Bronze Age hoard from Rovalls in Gotland (Sweden) (Hansson, *Gotlands Bronsålder* (1927), pl. 30, no. 148).

<sup>2</sup> Jacobsthal, *Early Celtic Art*, I, *passim*, esp. pp. 45ff. For the later inter-action of this and other animal-styles in East Europe and Asia, cf. Minns, *The Art of the Northern Nomads* (*Proc. British Acad.*, XXXVIII (1942)).



(and perhaps its finest development) into the middle of the second millennium is attested by the finds from Mycenae (about 1600), Luristān (from about 1400), Trialeti (after 1400), and the Koban cemeteries (from about 1300). At Khurab the apparently analogous object should be after 2000, and in general we should not be far wrong, I feel, in believing that in Western India such pins and rods should be regarded as imports from a North Persian-Caucasian province at a date nearer to 1500 than 2000 B.C.

The problems raised by such a late date for the Mohenjo-daro pin, found at a considerable depth in the DK deposits, are of course considerable. Although no great reliance can be placed on stratification at this site owing to what Wheeler has rightly called an 'incredible' system of recording finds, there seems little doubt that, all things being equal, it should be rather later in date than the spiral-headed pin already discussed, but nevertheless appreciably earlier than the shaft-hole axe-adze found at a depth of six feet in the same general region. Now this axe-adze, as is well known, is an unambiguous import from the west, where it is exactly paralleled at Hissar III and other contemporary sites and should therefore be broadly speaking of the same date as the spiral-headed and animal-headed pins and rods described in this paper. If the evidence of stratigraphy at Mohenjo-daro be accepted (in its widest and most general terms), it looks as though we must consider a continuous process whereby occasional objects from the North Persian culture-province found their way to the city almost throughout its long history. If we cannot place the earliest of these imports (the spiral-headed pin) much before 2000, if at all, the date of the animal-headed pin and, even more, of the axe-adze, must come very much nearer a lower limit of about 1500.

#### *A mace-head from Chanhudaro*

The Chanhudaro excavations produced a metal object that has not received the comment it deserves. It is a copper or bronze casting described by Mackay, the excavator, as a 'fluted cosmetic jar', though he was careful to point out that the 'base' was rounded, so that the object could not stand.<sup>1</sup> This however he regarded as evidence of an unfinished casting. It seems more likely that this bronze is in fact a small mace-head, the rounded 'base' being its top, where the curvature would in no way interfere with its function and would give a more pleasing finish. I have already commented on the ambiguity of the Chanhudaro stratification and recording in describing the hoard which contained the double-spiral pin discussed earlier in this paper, and all one can say of the location of the mace-head is that it seems approximately to equate with the hoard in question, and to belong to the final phase of the Harappā occupation of the site or the subsequent Jhukar horizon.

The affinities of the mace-head seem to lie with certain Persian specimens which share the characteristics of a tubular stem, often enriched with mouldings, a globular or ovoid head which may be fluted or knobbed, and an upper element with a moulding or flared-out expansion. In the examples known to me the perforation is continuous from end to end of the object, but at Chanhudaro the upper end is solid.

Comparable examples are shown in fig. 5, and the generic similarity can be seen, though exact parallels are not forthcoming at present. A specimen from Hissar III<sup>2</sup> has the stem ornamented with ring-mouldings, and the head has elongated blobs in relief; that from Luristān<sup>3</sup> (hitherto unpublished) is a more slender type, but with a boldly fluted

<sup>1</sup> Mackay, *Chanhudaro Excavations*, pl. LXXIII, no. 39.

<sup>2</sup> Schmidt, *op. cit.*, pl. LII, H. 771.

<sup>3</sup> In the Frank Savary Collection, but not included by Przeworski in his paper in *Arch.*, LXXXVIII, 229. Exhibited in the Ashmolean Museum, Oxford, in 1946.



head and above this a flared-out terminal. A third specimen shows a clumsy and probably rather degenerate example of the same general type, with ring-mouldings, circular knobs

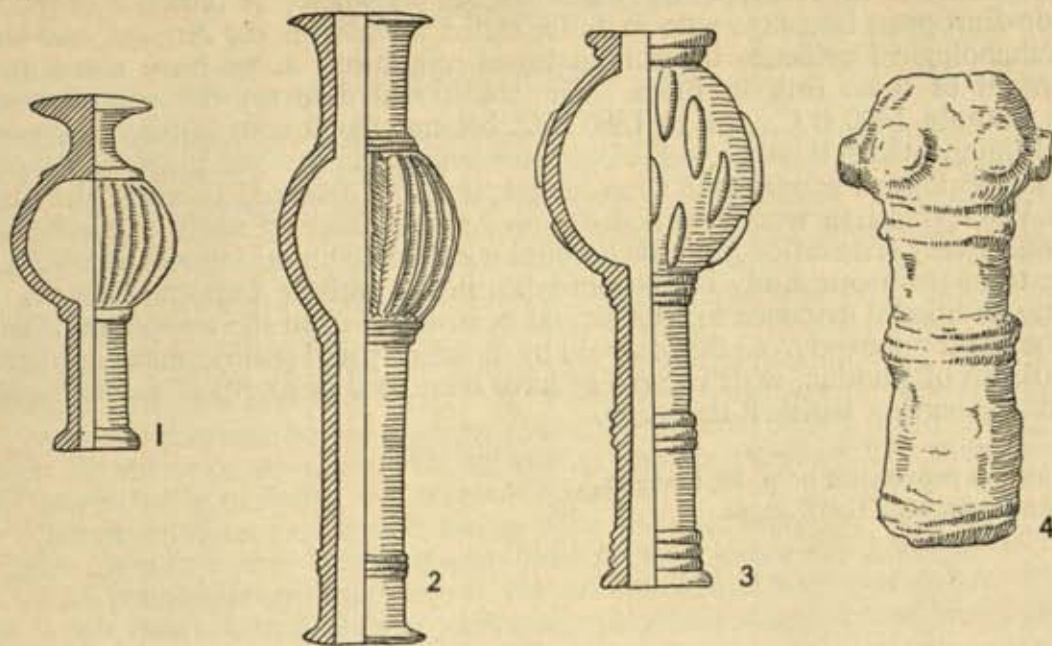


FIG. 5. Bronze mace-heads from: 1. Chanhudaro; 2. Luristan, Persia; 3. Hissar, Damghan, Persia; 4. B Cemetery, Sialk, Persia.  $\frac{1}{2}$

and no finial (though this may have corroded away in this badly-preserved specimen). This last mace comes from the B Cemetery at Tepe Sialk.<sup>1</sup> A probably comparable type (not illustrated) is known from Susa, where it is assigned to 'Susa II', but the grave furniture seems to be unusual, and no evidence for this date is given in the published account.<sup>2</sup>

An origin for the Chanhudaro mace-head in Persia seems therefore likely. The chronological range of the known examples should be about 2000 in Hissar III, with at least a possibility of a lower limit, while the Luristan group of bronzes as we have seen do not seem to go back before about 1400. The B Cemetery at Sialk contains sword-types that can be dated to the time of Shalmaneser III (858-824 B.C.) and iron tools and weapons are present, but earlier traditions are represented in, for instance, the axe-adze amulets of Hissar III-Shah Tepe type. The Susa specimen, if the dating is reliable, would provide an early third millennium prototype for the whole series.

The Chanhudaro find is then yet another piece of evidence pointing to trade contacts or folk movements from the west affecting India at the end of the Harappā phase, and such chronological evidence as we have suggests that it arrived after 2000 B.C. rather than before, and possibly some centuries later.

If we regard the earlier exotic objects at Mohenjo-daro (the spiral-headed and the animal-headed pins from the DK area) as the result of trade, or of the intermittent arrival of folk from the west in the Indus Valley, the latest import on that site (the axe-adze) can hardly be dissociated from the double-spiral pin and the mace-head at Chanhudaro, nor the more conclusive evidence from this site and from Jhukar and Shāhi-tump for actual

<sup>1</sup> Ghirshman, *op. cit.*, II, pl. XXVI, 10.

<sup>2</sup> *Mém. Délég. en Perse*, XXV, 215, fig. 59.



movements of peoples into Western India at a time when the Harappā civilization was in decline or actually defunct. More than one archaeologist, notably Heine-Geldern,<sup>1</sup> has sought to identify in certain types at Hissar III and elsewhere the presence of the speakers of an Indo-European language who in India called themselves the Aryans, and would see in the archaeological evidence of such eastward migrations as we have noted above, the actual arrival of these folk in India. The traditional date for the compilation of the R̥g-veda is about 1400 B.C., and to 1380 B.C. belongs the famous Hittite treaty-document with the Mitanni which invokes gods closely corresponding to some in the Vedic pantheon. Wheeler's recent work at Harappā<sup>2</sup> has shown that the defenced cities of the aborigines, which in Vedic tradition were attacked by the Aryans, are very likely to have been those of the Indus Valley civilization, and the chronological and cultural information we have been able to extract from our study of the pin-types is not without importance here. It does add a little additional evidence for the arrival of invaders from the steppes at a date which may not be so far removed from that reached by the literary and philosophical dead-reckoning from the death of Buddha, which seems to have been used to arrive at a date for the compilation of the earliest Sanskrit literature.

<sup>1</sup> See his two papers cited on p. 36, footnote 3.

<sup>2</sup> *Ancient India*, no. 3 (1947), p. 82.